

ABSTRACT OF THE INVENTION

Electrostatic capacitance measurements are used to detect chemical or biological analytes, or chemical interactions, with great sensitivity. A diaphragm is coated with a material capable of selectively interacting with an analyte of interest, and interaction of the analyte with the coating exerts stresses tangential to the diaphragm's surface. These stresses cause diaphragm displacements that are sensed as varying capacitance.